Figure 2. (Above) Typical display on a wall of three cleaned, polished, enhanced, and framed engravings. These engravings are some of those used to print the USGS 1:31,680-scale topographic map "Washington, D.C. and vicinity". From left to right are the engravings used to print cultural, transportation, and boundary features and text with black ink; contours with brown ink; and hydrography with blue ink. (Photo courtesy of Bruce Geyman.)

Each engraving measures 18 inches wide and 26 inches long. When framed each measures 22 inches wide, 30 inches long, and two inches deep. The glare in the rightmost engraving is from the light in the room reflecting off the mirror-like surface of the polished plate.

Figure 3. (Left and above) Close up of the engraving used to print cultural, transportation, and boundary features and text with black ink. The inset shows the mirror-image reversal of the point and line symbols and text. The engraved symbols and text have been enhanced by coloring them white to improve their visibility for display. (Image courtesy of Bruce Geyman.)

What do the engravings look like?

The engravings have point and line symbols and text. The engravings are the mirror image (left-to-right reversed) of the final illustration. The words and text characters are backwards. For maps, "east" is on the left side of the engraving.

How do the engravings relate to the printed image?

The engravings are color-separated; that is, there is an engraving for each color of ink on the print. A single-color illustration requires one engraving. A multicolor illustration requires an engraving for each color.

The engravings also can be feature-separated to allow the printing of different versions of an illustration. For example, topographic and geologic maps for a place are printed with different combinations of engravings.

The set for a typical topographic map has three engravings, one for each of the black (cultural, transportation, and boundary features and most text), brown (contours), and blue (hydrography) colors. Geologic maps can have engravings for contacts and map unit labels, faults, structure contours, and other features.

In addition to being separated by colors and features, engravings for large illustrations are partitioned to be a manageable size.

The engravings might not have all the points, lines, and text for an illustration. The areal lithologic patterns and colors were reproduced on geologic maps with other artifacts, and are not on the engravings.

What is the condition of the engravings?

The condition of an engraving usually is good. The USGS did not print illustrations directly from the engraving; it transferred the image from the engraving to a lithographic stone and printed from the stone. This approach preserved the quality of the engraving so that it could be used to reprint and revise the illustration.

Who owns the rights to the images on the engravings?

The images are in the public domain.

Figure 4. A zinc plate in its storage cabinet. Most plates are stored horizontally in wooden cabinets to prevent them from touching and hinder them from warping. They have been stored for 60 years and so will need a good but gentle cleaning. (Photo courtesy of Bruce Geyman.)

The plates

On what material are the engravings made?

The engravings are on metal plates. Most plates are made from a copper alloy and a few are made from zinc.

What do the plates look like?

The face of a plate has a unique engraving. In addition to the image, an identifier often is engraved on the edge of the plate.

There usually is one illustration engraved on a plate. In a few cases a plate has engravings for several small illustrations or for multiple colors or features for one small illustration. This practice conserved materials.

The reverse side of the plate usually is blank. It might have identification information painted on it and be dimpled in places where the engraving was changed.

What are the dimensions and weight of the plates?

Most plates are 17-by-21 inches and weigh approximately 12.5 pounds. A set of engravings for a typical topographic map weighs approximately 37.5 pounds; that is, three plates each weighing 12.5 pounds.

The remaining plates vary in size from 4-by-5 inches to 36-by-40 inches. Their weights vary with their dimensions.

The thickness of the plates ranges from 0.09 inches to 0.18 inches.

What is the condition of the plates?

Most of the plates are tarnished. The copper plates have the color of an old penny. Many are dusty. Some plates are warped, pitted, scratched, or otherwise damaged.

Most plates are stored horizontally in wooden cabinets (see Figure 4). The plates rest on ledges that prevent them